

REMARKS

At the outset, the Applicants wish to thank Examiner Cao and Examiner Al-Hashemi for discussing the present application with Applicants' attorneys in a telephone conference held on May 2, 2007 (herein, the "Interview"). In addition, the Applicants thank the Examiners for providing the Interview Summary dated May 15, 2007 (herein, the "Examiner's Interview Summary").

Claims 1, 3-11 and 13-20 are pending in the present application, of which Claims 1 and 11 are in independent form. Claims 1 and 11 are amended to overcome the 35 U.S.C. §§101 and 112 rejections, as discussed below. For at least the reasons set forth in detail below, Applicants respectfully submit that Claims 1, 3-11 and 13-20 are in condition for allowance.

Rejections under 35 U.S.C. §§101 and 112

In the Office Action, the Examiner rejected Claims 1, 3-11 and 13-20 as failing to comply with the utility requirement under 35 U.S.C. §101 and the enablement requirement under 35 U.S.C. §112. As discussed during the Interview, Applicants amended Claims 1 and 11 to call for "applying a mask to the input to generate the query tree, wherein the mask and the input data each correspond to a tree data structure." Applicants submit that these amendment provides sufficient clarification to overcome the lack of utility and enablement rejections.

The Examiner further rejected Claims 1 and 3-10 under 35 U.S.C. §112 as failing to comply with the written description requirement, arguing that 'the subject matter "computer-readable database is directed to new subject matter since it is not defined in the specification.' (Office Action, page 3, paragraph 7). Applicants point out that the term "computer-readable database" appears in the specification as filed at least at the following paragraphs: [0017], [0019], [0023], [0025], [0032], [0034] and original Claim 1. Furthermore, Applicants submit that the term "computer-readable database," considered alone and/or in the context of the present

invention, reasonably conveys to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention, namely a system and method for updating a collection of tree data structures stored on and readable by a computer.

In the Office Action, Claims 1 and 11 are rejected as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Examiner asserts that “[i]t appears to have no connection between the last limitation ‘adding the input data to the database’ with the precedent recited limitations.” (Office Action, page 4, paragraph 9). Claims 1 and 11 are amended herein to modify this limitation to call for “replacing the deleted identified tree with the input data in the database” and “instructing the database component to replace the deleted identified tree with the input data in the database,” respectively. Accordingly, Applicants request that the §112 indefiniteness rejection of Claims 1 and 11 be withdrawn.

Rejection under 35 U.S.C. § 103(a)

In the Office Action, Claims 1, 3-11 and 13-20 stand rejected under 35 U.S.C. § 103(a) as obvious over Jagadish et al., Timber: A Native XML Database, 2002 (herein, “Jagadish”) in view of U.S. Patent Publication No. 2004/0060006 (herein “Lindblad”). For at least the reasons set forth below, Applicants respectfully submit that this combination of references fails to teach or suggest each and every element of Claims 1, 3-11 and 13-20.

As discussed at length during the Interview, Claims 1, 3-10 call for a method including the step of “generating a query tree having a tree data structure by applying a mask to the input data to generate the query tree.” Claims 11, 13- 20 relate to corresponding system claims. As claimed, the mask and the query tree(s) are two separate, independent, and distinct elements of the invention, wherein the mask (a single tree as shown in Figure 16) is used to generate the one or more query trees (as shown in Figure 18).

The relationship between the two distinct elements, the mask and the query tree, is evidenced by the following excerpt from the present application:

“Thus, instead of making a query tree that matches the results directly, a mask is generated that is applied to the input data in order to generate one or more query trees (or patterns). When this mask is applied to the collection of trees in the database, it identifies only those trees that must be deleted in order to complete the update.”

(U.S. Publication No. 2005/0065964, paragraph [0175]). As illustrated by the above excerpt, the mask may be used to first prune the collection of trees to generate one or more query trees. The query tree(s) may then be applied to the collection to identify the tree(s) to be deleted from the database as part of the update operation.

In the Office Action, it appeared that the Examiner treated the two elements of the claimed invention (the mask and the query tree(s)) as a single element. In the Office Action, the Examiner indicated that the “pattern tree” of Jagadish is equivalent to the Applicant’s query tree. (Office Action, page 3, section 7). However, the Office Action also asserted that Jagadish’s “pattern tree is equivalent to Applicant’s ‘mask’”, creating ambiguity as to the Examiner’s interpretation of the references. (quoting Office Action, page 5, paragraph 5).

The Interview was held in an attempt to resolve this ambiguity and gain further clarification regarding the Examiner’s arguments. During the Interview, the Examiners acknowledged the ambiguity and introduced a new interpretation of the Office Action wherein the pattern tree of Jagadish is equivalent to the mask of the present invention. These points were summarized by the following excerpt from the Examiner’s Interview Summary - “Examiners admitted that the previous office action did not clearly indicate how the reference read on the two distinct features of the invention (e.g., the mask and the query tree) but provided an interpretation of how the pattern tree of the reference was equivalent to the mask of the claimed invention.” (Examiner’s Interview Summary, continuation page).


Based on the interpretation offered by the Examiner, if the “pattern tree” of Jagadish is assumed to be equivalent to the “mask” of the claimed invention, then, following logically, the “witness trees” of Jagadish must be assumed to be equivalent to the “query tree” of the present invention. Assuming this is the case, then the combination of Jagadish and Lindblad lacks a teaching or suggestion of the application of the query tree to the collection of tree data structures in the database to identify an identified tree consistent with the query tree, as called for in Claims 1, 3-11, and 13-20. For illustration purposes, the Applicants’ assumptions based on the interpretation of the references presented by the Examiner during the Interview (as summarized in the Interview summary), are set forth in the chart below.

Features of the Applicants’ claimed invention	Examiner’s assertion of equivalent element in the combination of Jagadish and Lindblad
Mask	Pattern tree
Query tree	Witness tree
Identified tree	There is no showing of an equivalent element

Applying the Examiner’s interpretation of the references, as illustrated above, results in the lack of a teaching or suggestion in Jagadish of an identified tree, which is identified by applying a query tree to a collection of tree data structures such that the identified tree is consistent with the query tree. Furthermore, the Office Action is devoid of any showing that Lindblad teaches or suggests at least this feature of the claimed invention. Because the cited references, considered alone or in combination, fail to teach or suggest each and every element of Claims 1 and 11, and all claims depending thereon, the Applicants respectfully request that the §103(a) rejection based on the combination of Jagadish and Lindblad be withdrawn.

For at least the reasons set forth above, Claims 1, 3-11, and 13-20 are deemed to be in condition for allowance. Reconsideration and favorable action in this regard is earnestly solicited.

Respectfully submitted,

A handwritten signature in cursive script, reading "Daniel D. Sierchio", written in dark ink.

Daniel D. Sierchio
Attorney for Applicants
Registration No. 53,591

Docket Administrator
Lowenstein Sandler PC
65 Livingston Avenue
Roseland, NJ 07068